PATENT ABSTRACTS OF JAPAN

(54) SYSTEM FOR DISTRIBUTING DATA

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a system which reduces the load of a specific server and also allows a client computer side to easily collect needed data from a plurality of servers in the system distributing data through a telecommunication line.

SOLUTION: A data server is provided with a content storing means which stores one piece of or more data and a data identification information storing means which stores the identification information of the data as data identification informationa managing server generates list information obtained by making the address information of the data server correspond to the data identification information received from the data server by a list information generating meansand a client computer receives the data from the content storing means of the data server on the basis of the address information stored in the received list

information and the data identification information by a content receiving means.

[Claim(s)]

[Claim 1]Are a data distribution system which consists of two or more data servers and a managing server which were connected by electric telecommunication linesand a client computerand said data serverHave a content storing means which memorizes one or more dataand a data identification information storage means which memorizes identification information of said data as data identification informationand said managing serverAn address information memory measure which memorizes address information which shows an address of said data serverA data identification information receiving means which receives data identification information memorized by said data identification information storage means from said data serverA list information creating means which generates list information which matched address information of a data server which has memorized received data identification information and this data identification informationHave a list information memory measure which memorizes generated list informationand said client computerA list information reception means which receives list information memorized by said list information memory measure from said managing serverA data distribution system which has a content reception means to receive data from a content storing means of said data server based on address information and data identification information which are memorized by received list information.

[Claim 2]Said data server has a category information memory measure which associates and memorizes further data identification information and category information which shows classification of data corresponding to this data identification informationSaid managing server has further a category information reception means which receives category information from said category

information memory measureThe data distribution system according to claim 1 which said list information creating means matches category information which was related with data identification information in addition to address information of a data server which has memorized data identification information and this data identification informationand is generated as list information.

[Claim 3]Have said client computer and a category selecting means which receives a user's directions and chooses classification of data further said content reception meansThe data distribution system according to claim 2 which receives data which data identification information matched with category information corresponding to classification of selected data shows.

[Claim 4]Said data server has a category information memory measure which associates and memorizes further data identification information and category information which shows classification of data corresponding to this data identification informationA category information reception means in which said client computer receives category information from said category information memory measure furtherThe data distribution system according to claim 1 which receives data which data identification information matched with category information corresponding to classification of data which has a category selecting means which receives a user's directions and chooses classification of dataand in which said content reception means was chosen shows.

[Claim 5]In said managing servera list information creating meansA data distribution system given in any 1 paragraph of claims 1-4 which update list information about data identification information which compares data identification information memorized by list information of the past memorized by list information memory measure with received data identification informationand is different.

[Claim 6]In said data serverdata memorized by said content storing means is divided into two or more copiesand in said client computer said content reception meansevery [of each of said data server to each data / a part] -- a time interval -- a data distribution system given in any 1 paragraph of claims 1-5 which set and

receive.

[Claim 7]In said data serverdata memorized by said content storing means is image data of two or more sheetsand said client computerA data distribution system given in any 1 paragraph of claims 1-6 which have a screen saver display means to display on a monitor by making into a screen saver image data which a content reception means received.

[Claim 8]The data distribution system according to claim 7 which changes at random image data of two or more sheets which received said screen saver display means for every certain time interval.

[Claim 9]A managing server given in any 1 paragraph of claims 12and 4.

[Claim 10]A recording medium which recorded a program for realizing a function as the managing server according to claim 9 on a computer and in which read-out to this computer is possible.

[Claim 11]A client computer given in claim 1 and any 1 paragraph of 3-8.

[Claim 12]A recording medium which recorded a program for realizing a function as the client computer according to claim 11 on a computer and in which read-out to this computer is possible.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the system which adjusts the data distribution from two or more data servers with a managing server in detail about the system which distributes data through electric telecommunication lines.

[0002]

[Description of the Prior Art]It is performed frequently that many ordinary computer users receive and use data from various servers on the Internet by the spread of the Internet in recent years. In order for ordinary computer users to

receive data from two or more servers on the Internetas shown in drawing 12 (a)it is common that a computer user accesses each server Z using the client computer Xand receives directly required data. In this caseso that the data updated when the data by the side of the server Z was updated can be easily received from two or more servers ZThe address with which the data of the server Z is beforehand memorized by the client computer X side is registeredThe application software which recorded a round program which connects with the server Z with the address registered periodically one by oneand receives only the data updated is also generally used.

[0003]As shown in drawing 12 (b)two or more data is beforehand collected from two or more of other servers Z to the specific server YThis is classified into categoriessuch as "news"a "sport"and "entertainments"is recordedand there is also a method of receiving data from this specific server Y in the client computer X. In this casethe user of the client computer X accesses this specific server Yand a category can be chosen now. In the server Y sideperiodicallywhenever it connectsthe data which belongs to the category concerned every is automatically transmitted to the client computer X. Therebythe user of the client computer X can receive the data belonging to the favorite category currently recorded on two or more servers Zwithout searching data beforehand.

[0004]

[Problem(s) to be Solved by the Invention]By the wayif data is centralized on such a specific server Ya huge storage capacity will be needed for this specific server Yand access from many client computers X will concentrateand the load of a communication line will also become large. Since it transmits to the client computer X after transmitting the data memorized by each server Z to the one specific server Ythe same data will be transmitted twice and it is inefficient.

[0005]When the client computer X accesses two or more direct servers Z using a round program etc. which were mentioned above and it receives datado not produce such a problembut in this caseThe user of the client computer X will need to discover himself the server Z which is recording the data certainly

received beforehandand the labor of the user of the client computer X will become large. That the above problems should be solvedthis invention provides the system which can collect data simply required of the client computer side from two or more servers while reducing the load of a specific server.

[0006]

[Means for Solving the Problem]In a data distribution system with which the invention according to claim 1 consists of two or more data servers from which it was connected by electric telecommunication linesa managing serverand a client computer in order to solve an aforementioned problemA content storing means which memorizes one or more dataand a data identification information storage means which memorizes identification information of said data as data identification information are provided in a data server. A data constellation related with "data" here considering two or more data as one group is included.

[0007]And an address information memory measure which memorizes address information which shows an address of said data server to said managing serverA data identification information receiving means which receives data identification information memorized by said data identification information storage means from said data serverA list information creating means which generates list information which matched address information of a data server which has memorized received data identification information and this data identification informationand a list information memory measure which memorizes generated list information are established. With "address information" here only not only in the address of a data server itselfIf a table which it was sufficient for when it was the information which can draw address information of a data serverfor examplematched identification information and address information of a data server with a client computer existsit may be the identification information of a data server.

[0008]To said client computer. A list information reception means which receives list information memorized by said list information memory measure from said managing serverA content reception means to receive data from a content

storing means of said data server based on address information and data identification information which are memorized by received list information is formed.

[0009]By such compositiona client computer receives list information with which address information and data identification information about data which serves as a receiving pair elephant from a managing server first are related. A managing server collects only data required for a user of a client computer beforehandor here. By adding information which shows an outline of data to data identification informationor carrying out setting out according to a specific category of composition of data identification information. In a client computeran address and data identification information on a data server that data which a user needs was memorized are acquirable by direct or selection. And based on an address and data identification information on a data server which were acquireda client computer accesses a data server and receives required data.

[0010]In the invention according to claim 2a category information memory measure which associates and memorizes data identification information and category information which shows classification of data corresponding to this data identification information to said data server is established. And a category information reception means which receives category information is further provided in said managing serverCategory information which was related with said list information creating means by data identification information in addition to address information of a data server which has memorized data identification information and this data identification information is matchedand it is made to generate as list information. If "classification of data" here shows an attribute common to two or more data defined beforehandit may be what kind of thing and arbitrary things can be set up. When it does in this wayin a client computerit can be recognized easily which data belongs to what kind of classification from list information.

[0011]Establish a category selecting means which receives a user's directions to said client computerand chooses classification of data as it in the invention

according to claim 3and said content reception meansData which data identification information matched with category information corresponding to classification of selected data shows is received. If it does in this waya user of a client computer by choosing classification of favorite data. A client computer acquires data identification information and address information which sort out a data type and correspond out of list information received automaticallyand it is receiving required data from a data server.

[0012]A category information memory measure the invention according to claim 4 also associates and remembers data identification information and category information which shows classification of data corresponding to this data identification information to be to said data server is established. And while establishing a category selecting means which receives a user's directions to said client computerand chooses classification of data as ita category information reception means in which said client computer receives category information from a data server directly is established. And said content storing means receives data which data identification information too matched with selected category information shows. Even if it does in this waya user of a client computer by choosing classification of favorite data. It is a client computer extracts address information and identification information which were indicated to list information received automaticallyand address information and identification information of data required based on category informationand receives the data from a data server.

[0013]In the invention according to claim 5a list information creating means of said managing server updates strike information about data identification information which compares data identification information memorized by list information of the past memorized by list information memory measure with received data identification informationand is different. By such compositiona managing server is sufficient if only a place corresponding to a portion which is different from identification information or before which received from a data identification information storage means of a data server updates list

informationand efficiency of list information generation improves.

[0014]In the invention according to claim 6from each of said data servera content reception means of said client computer sets a time interval for every [of each required data / a part]and is received. Data received since data received even if data which a client computer should receive becomes great by such composition was divided by time by recording on a recording medium or overwriting the past data. Load to a storage capacity of a client computer of data to receive will be distributed.

[0015]Data further memorized by said content storing means in the invention according to claim 7 is image data of two or more sheetsA screen saver display means to display on a monitor by making into a screen saver image data which a content reception means of said client computer received is formed. In order to prevent baking of a displayetc.a screen saver means displaying graphics on a screenwhen there is no input in a fixed time computer. When data on a data server is always updated and a client computer receives this updated data by such compositionA picture which is varied based on new image data can be displayedmoreover data according to liking of a user of a client computer is displayedand usefulness is high for a user.

[0016]In the invention according to claim 8this screen saver display means changes image data of two or more sheets which received for every one-point time interval at random. To a client computera picture which a user does not expect will change one after anotherand a user's tedious feeling is made reduced more by such operation.

[0017]The invention according to claim 9 is the above-mentioned managing serverit generates list information based on information acquired from a data serverand client computer offer is made. The invention according to claim 10 is the recording medium which recorded software which realizes this managing server by computerand it becomes possible to realize a managing server easily by making software read into a common computer through this recording medium.

[0018]The invention according to claim 11 is the above-mentioned client

computerand receives data from a data server based on list information received from a managing server. The invention according to claim 12 is the recording medium which recorded software which realizes this client computer by computerIt becomes possible to realize a client computer easily by making software read into a common computer through this recording medium.

[0019]

[Embodiment of the Invention]Hereafteran embodiment of the invention is describedreferring to drawings. The key map showing the composition of the data distribution system concerning this embodiment is shown in drawing 1. This data distribution system is what delivers and receives information by the apparatus connected to the Internet as electric telecommunication lines upwardsIt is constituted by management computer A which generates the list information for collecting identification information etc. from two or more data servers C and data servers C which distribute the client computer A with which data is distributedand dataand adjusting data distributionand transmits to the client computer B. Although two or more client computers A are connected on the Internet in practiceafter [expedient] explaining hereit explains using the one client computer A. Although the data server C shows only three sets by a diagramit is connected by hundreds of or more sets from about ten sets in practice.

[0020]The client computer Amanaging server BCPU to which the data server C performs data processingrespectivelyIt has realized by incorporating the program which performs operation as shown in the common computer constituted by input devicessuch as outboard recorderssuch as RAM used as workspaceRAM which records a program etc.and an external hard diska keyboardand a mousemonitoretc. below. The program concerned can be recorded on the recording medium in which read-out to computerssuch as CD-ROMis possible. This program is recorded on the arbitrary recording media connected to electric telecommunication linessuch as the Internetand it is also possible to read to a computer through these electric telecommunication lines.

[0021]Nexteach component part is explained in detail. Firstthe data server C is explained. Here the server which the company has as an object for its company as the data server C is assumedand the data transmitted to the client computer A is two or more image data in relation to the handling goods and service of each company. These image data is stored in the storage area in the large hard disk which the data server C has. The figure which expresses this storage area typically is shown in drawing 2. As shown in a figurethe storage area is hierarchical and the category folder 22 has added it to the folder 21 which shows the top data serverTwo or more picture folders 23 have added to the lower layer of the category folder 22and two or more image data files 24 have added to the lower layer.

[0022]The image data file 24 consists of the attribution information 24b and the image data 24c which show the attribution information of filessuch as the identification information 24a which is a file name for identifying image dataa Japanese notation of a fileand a size of data. The picture folder 23 packs two or more image data files 24 as one groupand two or more image data files 24 included in the one picture folder 23 are associated from each article service of a company with the data server C. The picture folder 23 has the attribution information 23b which shows the attribute about the identification information 23a and the folder which are folder names.

[0023]The category folder 22 summarizes what has a the same kind of article service related with the image data file 24 included in each picture folder 23. Herepublication and booksa movie and videoa car and a motorbikeetc. are specifically assumed as a category. In drawing 2the kind of article service which a company provides with the category folder 22for example although only one is drawn may be established for two or more category folders 22 with plurality. It is also possible to set up the category folder 22 hierarchical. Such change can respond [whether what we do with a correspondence relation with the list information and the selection picture which are mentioned laterand] flexibly by setting beforehand.

[0024]The category folder 22 also has the attribution information 22b which shows attributessuch as a name of the category of 22b of the identification information 22a which is a folder name for identifying the category folder 22and a category folderand a code of the category defined beforehand. The attribution information 22b of this category constitutes category information. If the identification information same about the same category will be used with two or more data servers Cthe identification information of a category may be used as category information. The data server folder 21 is the top folderand has the attribution information 21b which shows the attribute of the data servers Csuch as the identification information 21a which shows the data server Cand a company name which has the data server C.

[0025]Nextmanaging server A is explained. The functional block diagram which expresses the function of managing server A notionally is shown in drawing 3. Managing server A is functionally constituted by the data transmission and reception part 31the address information storage part 32the data identification information storage part 33the list information generation part 34and the list information storage parts store 35. The data transmission and reception part 31 comprises a control program hardwares for communicationsuch as a routerand for communication. The data transmission and reception part 31 patrols two or more data servers C periodicallyand receives each folder in the storage area mentioned aboveand the identification information 21a22a23aand 24a and the attribution information 21b22b23band 24b of a file. That isthe data transmission and reception part 31 constitutes a data identification information receiving means and a category information reception means.

[0026]The address information storage part 32 is formed in a hard diskand memorizes the address on the Internet of the data server C to patrol. Address information is specifically recorded in a form like "http://www.xxxx.co.jp/" ("xxxx.co.jp" is a domain of the data server C). This can be easily led to origin because the address of lower layer category folder and picture folderor a graphics file also adds identification information to a low rank. The data

identification information storage part 33 memorizes each identification information and attribution information which it was provided in temporary storagesuch as RAMand the data transmission and reception part 31 received. The list information storage parts store 35 memorizes the list information mentioned laterand is provided in a hard disk.

[0027]The list information generation part 34 is a portion which generates the list information memorized by the list information storage parts store 35and is constituted by the list comparing element 34a and the list updating section 34b. The list comparing element 34a compares with the identification information and attribution information which were memorized by the contents and the data identification information storage part 33 of the list information storage parts store 35. As a result of comparison by the list comparing element 34athe list updating section 34b updates list informationwhen there is a difference. Since nothing is memorized in the list information storage parts store 35 in the beginningthe list updating section 34b certainly updates list information.

[0028]The figure which expresses the contents of list information typically is shown in drawing 4. that in which the identification information of the graphics file collected from two or more data servers has the same category information first in list information based on the attribution information which shows a category -- the category information 12and 3 -- grouping is carried out as ... etc. what is recorded on the same data server C in each category field -- the attribution information 12and 3 -- grouping is carried out by ... the attribution information 12and 3 shown in a figure ... is a company name which specifically has the data server C here. address information abcetc. -- the attribution information 12and 3 -- it is a thing corresponding to ... and the couple 1 -- the attribution information 12and 3 -- the address information of the data server C which ... shows is shown. The identification information aband c is the identification information 23a which shows the picture folder 23 in the data server C. The identification information 24athe attribution information 24betc. about a graphics file in a picture folder are further recorded on low rankssuch as each identification information aband cfor

every graphics file as a data image identification information county.

[0029]Finallythe client computer A is explained. The functional block diagram which expresses the function of the client computer A typically is shown in drawing 5. The client computer A functionallyIt has the data transmission and reception part 51the list information storage parts store 52the selection picture generation part 53the category selecting part 54the selection category storage parts store 55the amount storage parts store 56 of received datathe received-data extraction part 57the contents storage part 58the screen saver display part 59and the monitor 50.

[0030]The data transmission and reception part 51 is constituted by the control program hardwares for communicationsuch as a terminal adoptera Data Service Unit or a modemand for communication. It connects with managing server B periodicallyand the data transmission and reception part 51 receives list informationand receives data from the data server C after that. That isthe data transmission and reception part 51 constitutes a list information reception means and a content reception means. The list information storage parts store 52 memorizes the list information which it was provided in the hard disk and received from managing server B.

[0031]The selection picture generation part 53 generates the selection picture displayed on the monitor 50 based on the list information memorized by the list information storage parts store 52. The category selecting part 54 is a portion which receives the selection which a user performs using pointing devicessuch as a mouseto the generated selection picture. An example of a selection picture is shown in drawing 6. As shown in a figurethe subcategory name 62 which shows the category name 61 which shows the classification of image datasuch as "publication and books"a movie and videoand "a car and a motorbike"and the company name which has the data server C added to the low rank of each category is displayed on the selection picture 6. This category name 61 is generated based on the category information 41 of list informationand the subcategory name 62 is generated based on the attribution information 42 which

exists in the low rank of the category information 41. Since category information is defined as code information defined beforehanda category name can be uniquely defined from category information. Of courseit may be made to add a category name to the category information of list information in managing server B.

[0032]The check box 63 for selection is displayed before each category name 61 and the subcategory name 62and the user can perform selection of a category and a subcategory by choosing this check box 63 using a pointing device. A user's selection of the check box 63 will display the seal of approximately v type. It turns out that this seal is displayed on the check box in front of "publication and books"and "**** Co." by a diagramand it is chosen as a user. In order to choose whether the tree of the subcategory name 62 is displayed before each category name 61The tree view change box 64 is formedwhen the inside of the tree view change box 64 is "+"the subcategory name 62 is not displayed but the subcategory name 62 is displayed at the time of "-." The change of a display of this "+" and "-" is performed by turns because a user chooses the inside of the tree view change box 64 with a pointing device. Although the tree of the subcategory name is displayed about the category name of "publication and books" by a diagramabout other category namesthe tree of a subcategory name is non-display.

[0033]OK button 65 which directs that a user consents to it and closes change of a screen in the selection picture 6Cancel button 66 which directs to close without a user consenting to change of a screenand the update button 67 in which a user directs to update by the new contents of selection are displayedDirections are inputted into a computer because a user chooses each of these with a pointing device. The result chosen when OK button 65 was chosen after the user chose the update button 67 is received by the computer through the category selecting part 54. The selection category storage parts store 55 memorizes this category and subcategory that were received.

[0034]The amount storage parts store 56 of received data is a portion which

memorizes the number of sheets of the image data which is set up beforehandand which receives. Here34is set up as image data number of sheets which receives. The received-data extraction part 57 extracts the attribution information 1 and 2 corresponding from the list information memorized by the list information storage parts store 52 based on the subcategory memorized by the selection category storage parts store 55each identification information aband c showing the picture folder in 3 gradeetc.and furtherOnly the image data number of sheets memorized by the amount storage parts store 56 of received data selects image data out of the image identification information in low rankssuch as each of such identification information aband c. The method of choosing at random as how to choose image dataor choosing in an order from a list information top is taken. Unless selection of a category and a subcategory is updatedthe image data which is not received before is chosen preferentially. And in the received-data extraction part 57the address information to each selected image dataidentification informationand the address with which each image data chosen from the file name on the Internet is stored are generated. The data transmission and reception part 51 requires the image data which accessed each data server based on this generated address informationand was extractedand receives this. The image data which received is memorized by the contents storage part 58 provided in a hard disk.

[0035]When a fixed time input is not made from a user to the client computer Athe screen saver display part 59 extracts at a time at random one image data memorized by the contents storage part 58and is made to display it on the fixed time monitor 50 as a screen saver.

[0036]Nextoperation of the data distribution system which has the above composition is explained. The sequence diagram showing the data flow between the data server Cmanaging server Band the client computer A is shown in drawing 7. Although the data server C and the client computer A are pluralityafter [expedient] the sequence diagram of drawing 7 explainsthey are shown only onerespectively. Nowimage data shall already be recorded on the picture folder

in a storage area as shown in drawing 2 in each data server C.

[0037]Firstif managing server B becomes round timeit will access the data server C and will collect identification information and attribution information. Operation of the managing server B so far is explained using the flow chart which shows operation of managing server B of drawing 8. Firstin managing server Bif the data transmission and reception part 31 judges whether predetermined round time came (s101) and becomes round timeit will access in order to each data serverand identification information and attribution information will be required and collected (s102). After the collected identification information and attribution information are memorized by the data identification information storage part 33the list comparing element 34a of the list information generation part 34 compares them with the list information memorized by the list information storage parts store 35 (s102). If there is a difference herethe list updating section 34b will update list informationand nothing will be done if there is no difference (s104s105). It repeats until processing termination indication has more than processed (s106). Howeverwhen there is access from the client-server Athe above-mentioned processing loop is once ended as interruption processingand the data transmission and reception to the client computer A is processed preferentially. By the above operationsthe newest list information will always be memorized by managing server B.

[0038]Nextin the sequence diagram of drawing 7the client computer A requires list information from managing server Band managing server B transmits list information to the client computer A responding to this demand. The client computer A requires transmission of image data of the data server C based on this newest list informationand the data server C transmits image data to the client computer A responding to this. Operation of the client computer A in transfer of this information is explained using the flow chart which shows operation of the client computer A of drawing 9.

[0039]Firstin the client computer Aif it judges whether the data transmission and reception part 51 became round time (s201) and round time comesit will access

to managing server Blist information will be requiredand this will be received. The received list information is memorized to the list information storage parts store 52 (s202). Nextit judges whether a difference has the selection picture generation part 53 in list informationwhen there is a differencea selection picture as shown in drawing 6 is updatedand nothing is done when there is no difference (s 204205). When a user performs selection of a new category and a subcategory to change of this selection picturethe category selecting part 54 receives that selectionand makes it memorize to the selection category storage parts store 55 as interruption processing. the case where the category selecting part 54 has the category and subcategory which were lost when a user does nothing -- the -- it erases and processes by being crowded.

[0040]And the received-data extraction part 57 chooses the image data which receives based on the memory content of the selection category storage parts store 55the list information storage parts store 52and the amount storage parts store 56 of received dataand generates the address information (s206). Thenbased on the address information which the received-data extraction part 57 generatedthe data transmission and reception part 51 is accessed to each data server Crequires image dataand receives this (s207). The received image data is memorized to the contents storage part 58 (s208). It repeats until there are directions of the end of processing of the above operation (s209). Howeverif the interruption processing for performing other operations occursthe above loop of operation will be interrupted temporarily. By performing such operationthe category which the user choseand the image data belonging to a subcategory will always be stored in the contents storage part 58 of a client computerand they will be updated by new image data for every round time interval.

[0041]Since the screen saver display part 59 creates the screen of a screen saver using the image data according to the user's taste updated for every round time interval of thisit can acquire the information that utility value is high also for a user. To the candidate whoon the other handhas interest [as opposed to / for the company which provides image data through the data server C / the article

service of its company]since the picture information relevant to the article service of its company can be providedit is utilizable as advertising media which can perform an exact advertisement. It is also possible to be able to collect of what kind of data each client computer A chose the kind by managing server Band to perform the market research about the taste for every customer. Since the composition of the whole data distribution system is directly transmitted to **** and the image data with much capacity from the data server C to the client computer Adata does not focus on a specific server. Since those with two or more and the transceiver time of image data are also variousa communication line is [neither the data server C nor client computer A] crowded.

[0042]Whenever the data server C updates a data contentit may be made for this to send information to managing server B spontaneously from the data server C like sending identification information and attribution information in this embodimentalthough managing server B is patrolling the data server C periodically. Managing server B does not have the address information of the data server C beforehandbut it may be made to receive from the data server C in this case. Since address information is peculiar to the data server Cthis can also be used as identification information of the data server C. It is same also about a category foldera picture folderand a graphics file that address information can be used as identification information.

[0043]When it is made to send periodically or list information is updatedit may be made try for managing server B to send list information to the client computer A in this embodimentwhen there is a demandbut to send this. Although the demand of list information to managing server B from the client computer A is also performed periodicallythis is also required with a user's directions or can be required on condition of others. This is the same also about the demand of data to the data server C from the client computer A.

[0044]And although image data is used in this embodiment as data which the data server C providesAny data of not the thing limited to image data but a video datavoice datatext datathe multimedia data that combined theseetc. can respond.

According to the kind of data providedthe method of practical use with the client computer A can also consider various gestalten. A video dataimage dataand text data can also be used as well as the ability to use as a screen saver as what is called "wallpaper" displayed as the so-called background of a computer. A user can also use actively with the specific application which displays the received data or is reproduced. There may also be a utilizing method of accumulating in order to use the received data behind.

[0045]Although the category information as attribution information of a category folder is recorded on the data server C in this embodimentthe data server C does not necessarily need to have category information. For exampleif the rule of memorizing the data which certainly belongs to the same kind at the specific folder in a server is madeeach data server COnce it sets up the category information over the folder concerned by the managing server B sideit can match with the category information which set up the identification information to the folder. Whenever the data of the data server C is updatedthe administrator of managing server B judges the classification of the data updated by viewing etc.and can set it as list information.

[0046]This is also omissible although category information is also included in this embodiment in the list information which managing server B creates. In this casefor the client computer Amanaging server B associates the address information which memorized the data which may be required and the identification information of data of the data server C as list informationand memorizes them. Heresince the client computer A uses the data of the data server C as a screen saverthe address information of the data server C with the data which can be used as a screen saverand the identification information of data will be recorded on list information. And the client computer A accesses the server indicated to list informationThe attribution information of data is received and the image data of the kind which a received-data extraction part extracts the image data belonging to the kind whichfrom now onacquired the category information of image dataand was chosenand a user wants can be obtained.

[0047]And in this embodimentthe one data server C has only the identification information of the memorized self data. Howeveras shown in drawing 10two or more data servers C are made into a layered structurethe identification information etc. of the data which data server C* which has the upper data server C in a lower layer most has memorized are collectedand this can be transmitted to managing server B. What is necessary is for the upper data server C to collect the attribution information of the data memorized by lower layer data server C*and just to make it transmit to the client computer Aalso when the client computer A carries out direct reception of the attribution information as mentioned above. Transmission of the data to the client computer A may go via the upper data server Cand it may be made to send it directly from lower layer data server C* in this case.

[0048]Although managing server B is made only into one set and managing server B is kept from having data for transmission in this embodimentthe necessity does not necessarily exist. The example of the system which made the three upper data servers C share the role of managing server B is shown by making a data server into a layered structure at drawing 11. Even if it is such a systemthe upper data server C (managing server B). The identification information and attribution information of data which lower layer data server C* has memorized including the memorized self data as a managing server can be collectedlist information can be generatedand this can be sent to the client computer A. And if there is a demand of data from the client computer Athe data server C (managing server B) can send data to a client computer as a data server shortly. And although the Internet is used as electric telecommunication lines in this embodimentit is not necessary to be the Internet in particularand they may be the electric telecommunication lines closed from thosesuch as LAN and WAN.

[0049]

[Effect of the Invention]This invention does the following effects so from the above explanation. Firstin the invention according to claim 1bring together only

data required for the user of a client computer in the list information which a managing server providesor. By the information which shows the outline of data being added to data identification informationor it being made to carry out composition of data identification information to setting out according to a specific category etc. In a client computerthe data which should be received from the received list information can be chosenand required data can be received from a data server. Since the data itself is directly sent to a client computer from a data serverit can lessen data storage capacity of a managing serverand can also reduce confusion of a communication line.

[0050]In the invention according to claim 2since the category information which shows a data type is added to list informationdata can be chosen based on category information and required data can be acquired. By invention given in claims 3 and 4only by the user of the client computer choosing the classification of data beforehandsince the data which belongs to the classification automatically is receiveda user's labor can be reduced more.

[0051]Since a managing server updates only the changed part of identification information received in list informationprocessing speed goes up by the invention according to claim 5and load can be reduced by it. the invention according to claim 6 -- a client computer -- data -- a part -- every -- a time intervalsince it places and receivesIt can overwrite to the already received dataor the load to the storage capacity of a client computer can be distributed from the thing to other recording media to copyand the storage capacity to need can be lessened. Since the updated new picture is always received in the invention according to claim 7 and this is displayed as a screen saverThe always same graphics are not displayed like the conventional screen saverSince the image data which a new picture is displayedand can lose a user's tedious feelingand the user of a client computer demands is sentuse value as information can be enlarged for a user.

[0052]In the invention according to claim 8since the screen which a user does not expect still at random appearsinterest can be given more to a user. In the above-mentioned data distribution systemthe invention given in claims 9 and 10

can provide list information as the above-mentioned managing serverand can make the load of the information retrieval of a client computer reduce. The invention of a statement can receive required data for the time and effort of information retrieval from a data server few based on list information as the above-mentioned client computer to claims 11 and 12.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a figure showing the composition of the data distribution system concerning an embodiment.

[Drawing 2]It is a figure showing the storage area of a data server typically.

[Drawing 3]It is a functional block diagram showing the function of a managing server.

[Drawing 4]It is a figure showing the contents of list information typically.

[Drawing 5]It is a functional block diagram showing the function of a client computer.

[Drawing 6]It is a figure showing the example of the selection picture displayed on a client computer.

[Drawing 7]It is a sequence diagram showing the information flow of a data distribution system.

[Drawing 8]It is a flow chart which shows operation of a managing server.

[Drawing 9]It is a flow chart which shows operation of a client computer.

[Drawing 10]It is a figure showing the modification of the composition of the data distribution system concerning an embodiment.

[Drawing 11]It is a figure showing other modifications of the composition of the data distribution system concerning an embodiment.

[Drawing 12](a) is a figure showing an example of the composition of the conventional data distribution systemand (b) is a figure showing other examples

of the composition of the conventional data distribution system.

[Description of Notations]

A Client computer

B Managing server

C Data server

21 Data server folder

22 Category folder

23 Picture folder

24 Graphics file

21a22a23aand 24a Identification information storage area

21b22b23band 24b Attribute information storage area

24c Image data storage area

31 Data transmission and reception part

32 Address information storage part

33 Data identification information storage part

34 List information generation part

35 List information storage parts store

50 Monitor

51 Data transmission and reception part

52 List information storage parts store

53 Selection picture generation part

54 Category selecting part

55 Selection category storage parts store

56 The amount storage parts store of received data

57 Received-data extraction part

58 Contents storage part

59 Screen saver display part